IN THE CLAIMS:

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) ~~The method for manufacturing a semiconductor of claim 1~~ A method for manufacturing a semiconductor laser optical device, comprising:

a first step of forming an etching stop layer on a first semiconductor layer; and

a second step of forming a second semiconductor layer made of a group III-V compound semiconductor on the etching stop layer,

wherein an etching rate for the etching stop layer by dry etching is less than an etching rate for the second semiconductor layer, and ~~wherein~~ in the first step, the etching stop layer is a super lattice layer obtained by alternately layering an $Al_xGa_{1-x}N$ layer (where $0 \leqq x \leqq 1$) and an $Al_yGa_{1-y}N$ layer (where $0 \leqq y \leqq 1$ and $x \neq y$) on one another, thereby functioning as a reflector mirror having a thickness such as to reflect light whose wavelength is equal to or greater than about 360 nm and less than or equal to 500 nm, and

the thickness of each $Al_xGa_{1-x}N$ and each $Al_yGa_{1-y}N$ layer is $\lambda / (4n)$ wherein λ denotes an oscillation wavelength of the semiconductor laser optical device, and n denotes a refractive index of each $Al_xGa_{1-x}N$ layer and each $Al_yGa_{1-y}N$ layer.

5. (Cancelled)

6. (Cancelled)

7. (Currently Amended) ~~The method for manufacturing a semiconductor of claim 6, wherein the element included in the group III-V nitride semiconductor is nitrogen, and the impurity element is silicon~~ A method for manufacturing a semiconductor laser optical device, comprising:

a first step of forming an etching stop layer on a first semiconductor layer; and

a second step of forming a second semiconductor layer made of a group III-V compound semiconductor on the etching stop layer,

wherein an etching rate for the etching stop layer by dry etching is less than an etching rate for the second semiconductor layer, and the etching stop layer is made of an insulating film composed of silicon nitride.

8. (Currently Amended) ~~The method for manufacturing a semiconductor of claim 6,~~ A method for manufacturing a semiconductor laser optical device, comprising:

a first step of forming an etching stop layer on a first semiconductor layer; and

a second step of forming a second semiconductor layer made of a group III-V compound semiconductor on the etching stop layer,

wherein an etching rate for the etching stop layer by dry etching is less than an etching rate for the second semiconductor layer, the first semiconductor layer includes magnesium, the etching stop layer is made of an element included in a group III-V nitride semiconductor and an impurity element that determines a conductivity of the group III-V nitride semiconductor, and ~~wherein~~ the impurity element is magnesium, and an amount of magnesium included in the etching stop layer is more than an amount of magnesium included in the first semiconductor layer.

9. (Currently Amended) The method for manufacturing a semiconductor laser optical device of claim 8, wherein ~~an impurity concentration~~ the amount of magnesium included in the etching stop layer is about 1×10^{20} cm^{-3} or more.

10. (Cancelled)

11. (Currently Amended) ~~The method for manufacturing a semiconductor of claim 10,~~ A method for manufacturing a semiconductor laser optical device, comprising:

a first step of forming an etching stop layer on a first semiconductor layer; and

a second step of forming a second semiconductor layer made of a group III-V

compound semiconductor and including Al on the etching stop layer,

wherein an etching rate for the etching stop layer by dry etching is less than an etching rate for the second semiconductor layer,

the method further comprises a third step of performing a dry etching process on the second semiconductor layer, after the second step, wherein in the third step,

the etching process on the second semiconductor layer is stopped upon detecting the etching stop layer, the etching stop layer includes Al, an amount of Al included in the etching stop layer is more than an amount of Al included in the second semiconductor layer, and ~~wherein~~ the third step includes the steps of:

irradiating a surface of the second semiconductor layer with a laser beam;

receiving photoluminescence light emitted through excitation by the laser beam; and

assuming that a surface of the etching stop layer has been exposed ~~by detecting a change in~~ when a wavelength of the received photoluminescence light is shortened.

12. (Currently Amended) ~~The method for manufacturing a semiconductor of claim 10,~~ A method for manufacturing a semiconductor laser optical device, comprising:

a first step of forming an etching stop layer on a first semiconductor layer; and

a second step of forming a second semiconductor layer made of a group III-V compound semiconductor and including Al on the etching stop layer,

wherein an etching rate for the etching stop layer by dry etching is less than an etching rate for the second semiconductor layer,

the method further comprising a third step of performing a dry etching process on the second semiconductor layer, after the second step, wherein in the third step, the etching process on the second semiconductor layer is stopped upon detecting the etching stop layer, the etching stop layer includes Al, an amount of Al included in the etching

stop layer is more than an amount of Al included in the second semiconductor layer, and ~~wherein~~ the third step includes the steps of:

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irradiating a surface of the second semiconductor layer with X rays;

measuring a diffraction angle of the X rays; and

assuming that a surface of the etching stop layer has been exposed ~~by detecting a change in~~ when the diffraction angle ~~of the X rays~~ increases.

13. (Cancelled)